

U.S. Department  
of Transportation

United States  
Coast Guard



Commander, (oan-2)  
Eleventh Coast Guard District

Bldg. 50-6  
Coast Guard Island  
Alameda, California 94501-5100  
Staff Symbol: (oan-2)  
Phone: (510) 437-3516  
FAX: (510) 437-5836

Carquinez Strait, (7.1)  
16590  
Ser: 376  
July 17, 2001

Mr. Mo Pazooki  
California Department of Transportation  
P.O. Box 23660  
Oakland, California 94623-0660

Dear Mr. Pazooki:

Your application dated March 22, 2001, for Coast Guard approval of the location and plans of a proposed bridge across Carquinez Strait, mile 7.1, between Benicia and Martinez, California has been approved by the Commandant, U.S. Coast Guard. The instrument of approval, Bridge Permit (2-01-11), dated July 10, 2001, with the approved plans is provided as enclosure (1). Strict compliance with all terms of the permit is required.

Please review the conditions of the permit, particularly the time restrictions on commencement and completion. If you are unable to meet these time limits, you must request an extension of time at least 30 days in advance of the expiration date of your permit. This request can be made to our office at the address provided above.

This office must be kept informed concerning the status of the project. Please advise us of any pre-construction conferences, and furnish the date of construction at least 30 days prior to commencement to allow proper review and approval of the proposed method of construction. Progress reports will be established, giving a brief description of work accomplished and showing the percentage of the project completed. The Coast Guard may conduct periodic inspections to ensure the work is not unreasonably interfering with navigation.

Upon completion of the project, submit written certification that the proposed structure has been built in accordance with the approved plans and that all conditions of the permit have been fulfilled. A bridge completion report form is provided as enclosure (2). When available, please provide 8" x 10" photographs, showing the completed structure as it would be seen by the mariner, from both upstream and downstream.

Enclosure (3) is the approved navigational lighting and vertical clearance gauge plan, with text and drawings, for the proposed bridge. The lighting plan is prescribed in accordance with Title 33, Code of Federal Regulations, Part 118 (33 CFR 118). The prescribed navigational lighting is required to be installed and maintained on the portions of the bridge as they are constructed, to ensure the safety of navigation.

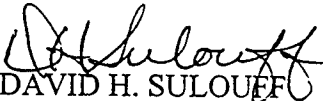
Condition 5 of the permit discusses clearance gauges. Guidance under 33 CFR 118.160 is available on the internet at <http://www.access.gpo.gov/nara/cfr/index.html>. We have determined

Carquinez Strait, (7.1)  
July 17, 2001

the visibility/safety distance requirement for the largest vessels approaching this bridge will be greater than 2,000 feet. Therefore the 36 inch high, Series "E" numerals with 10 foot spacing are required. Please submit drawings of the proposed gauge installation for our review and approval, prior to installation.

You may contact Mr. Jerry Olmes, Project Manager, by telephone at (510) 437-3515 to discuss this project.

Sincerely,

  
DAVID H. SULOUFF  
Chief, Bridge Section  
Eleventh Coast Guard District  
By direction

Encl: (1) Permit  
(2) Completion Report Form  
(3) Prescribed Navigational Lighting and Clearance Gauges

Copy: Federal Highway Administration w/o enclosures  
USCG MSO San Francisco Bay w/ lighting plan  
USCG Group San Francisco Bay w/ lighting plan



## BRIDGE PERMIT

JUL 10 2001

(2-01-11)

**WHEREAS** by Title V of an act of Congress approved August 2, 1946, entitled "General Bridge Act of 1946," as amended (33 U.S.C. 525-533), the consent of Congress was granted for the construction, maintenance and operation of bridges and approaches thereto over the navigable waters of the United States;

**AND WHEREAS** the Secretary of Transportation has delegated the authority of Section 502(b) of that act to the Commandant, U.S. Coast Guard, by Section 1.46(c) of Title 49, Code of Federal Regulations;

**AND WHEREAS** before construction is commenced, the Commandant must approve the location and plans of any such bridge and may impose any specific conditions relating to the construction, maintenance and operation of the structure deemed necessary in the interest of public navigation, such conditions to have the force of law;

**AND WHEREAS** the - STATE OF CALIFORNIA - has submitted for approval the location and plans of a bridge to be constructed across Carquinez Strait between Benicia and Martinez, California;

**NOW THEREFORE**, This is to certify that the location and plans dated March 2001 are hereby approved by the Commandant, subject to the following conditions:

1. No deviation from the approved plans may be made either before or after completion of the structure unless the modification of said plans has previously been submitted to and received the approval of the Commandant.
2. The construction of falsework, cofferdams or other obstructions, if required, shall be in accordance with plans submitted to and approved by the Commander, Eleventh Coast Guard District, prior to construction of the bridge. All work shall be so conducted that the free navigation of the waterway is not unreasonably interfered with and the present navigable depths are not impaired. Timely notice of any and all events that may affect navigation shall be given to the District Commander during construction of the bridge. The channel or channels through the structure shall be promptly cleared of all obstructions placed therein or caused by the construction of the bridge to the satisfaction of the District Commander, when in the judgment of the District Commander the construction work has reached a point where such action should be taken, but in no case later than 90 days after the bridge has been opened to traffic.

**ENCLOSURE(1)**

**Bridge across Carquinez Strait between Benicia  
and Martinez, California**JUL 10 2001  
BRIDGE PERMIT  
(2-01-11)

3. Issuance of this permit does not relieve the permittee of the obligation or responsibility for compliance with the provisions of any other law or regulation as may be under the jurisdiction of the U. S. Army Corps of Engineers, San Francisco District; U. S. Department of Interior, Fish and Wildlife Service; U. S. Department of Commerce, National Marine Fisheries Service; U. S. Maritime Administration, National Defense Reserve Fleet; State of California: State Historic Preservation Officer; San Francisco Bay Conservation and Development Commission, or any other federal, state, or local authority having cognizance of any aspect of the location, construction or maintenance of said bridge.

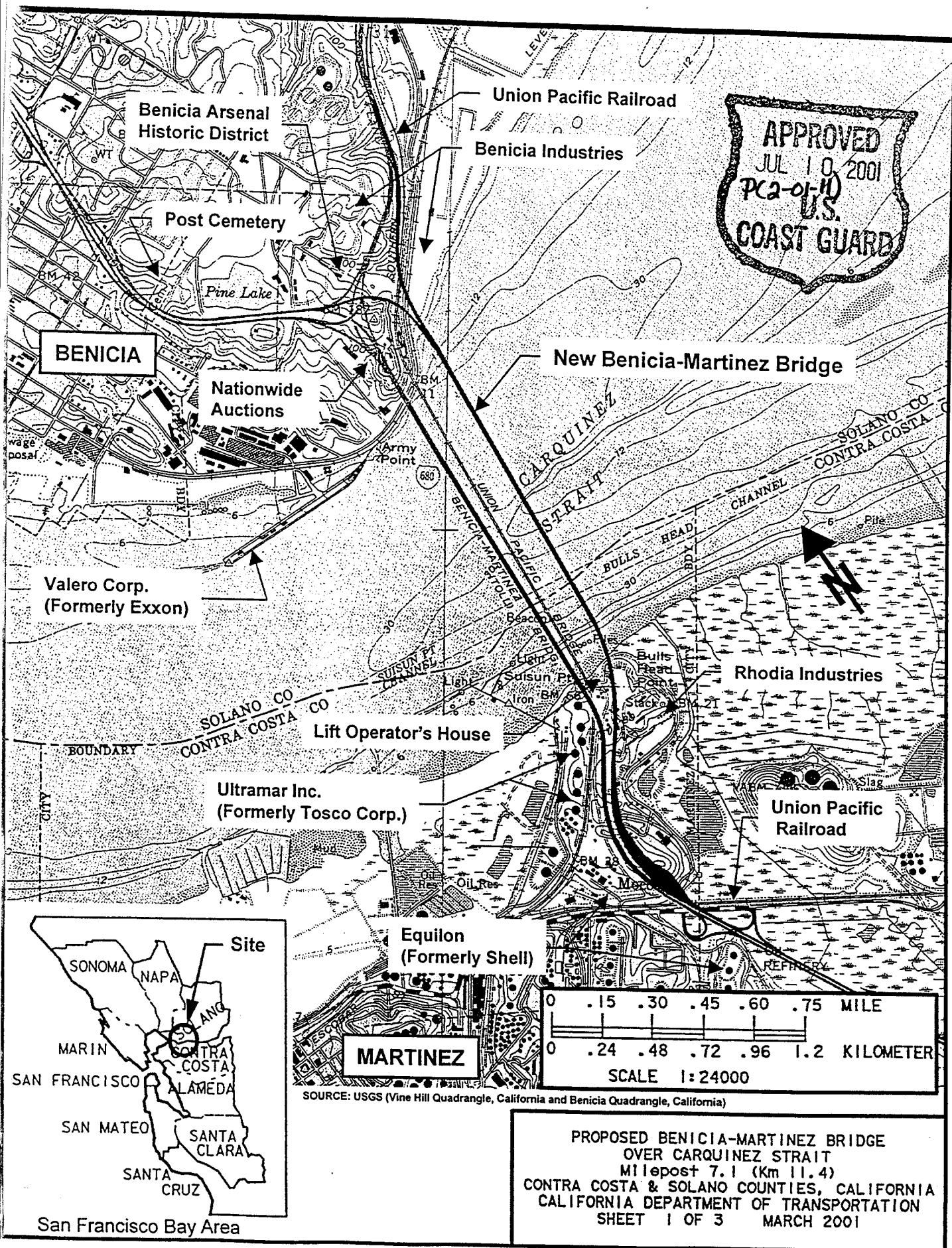
4. The location of, and materials to be used in construction of, the pier protection fender system as shown on the approved plan sheet 3 (of 3) dated March 2001 shall be submitted to the District Commander for approval prior to commencing construction of such system.

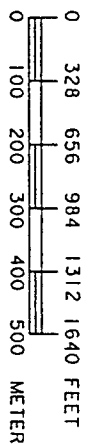
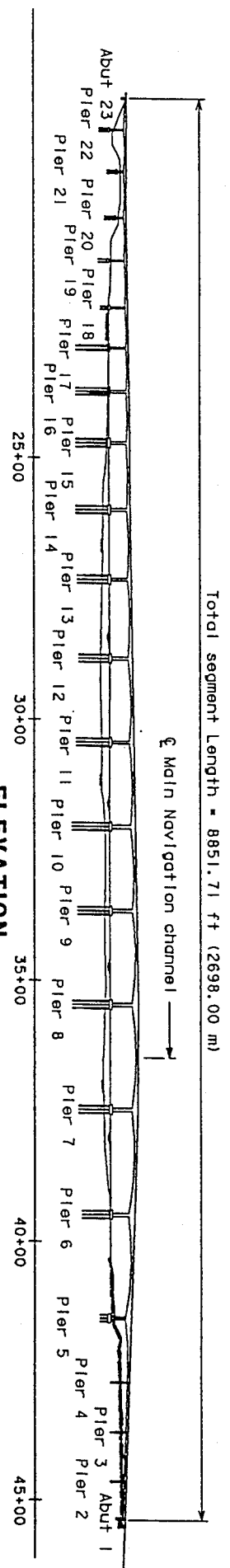
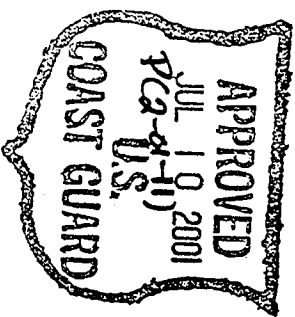
5. Clearance gauges shall be installed and maintained in good and legible condition by and at the expense of the owner of the bridge when so required by the District Commander. The type of gauges and the locations in which they are to be installed will be submitted to the District Commander for approval.

6. When the proposed bridge is no longer used for transportation purposes, it shall be removed in its entirety or to an elevation deemed appropriate by the District Commander and the waterway cleared to the satisfaction of the District Commander. Such removal and clearance shall be completed by and at the expense of the owner of the bridge upon due notice from the District Commander.

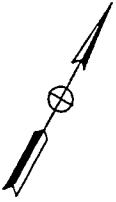
7. The approval hereby granted shall cease and be null and void unless construction of the bridge is commenced within three years and completed within five years after the date of this permit.

  
N.E. MPRASChief, Office of Bridge Administration  
U. S. Coast Guard  
By direction of the Commandant



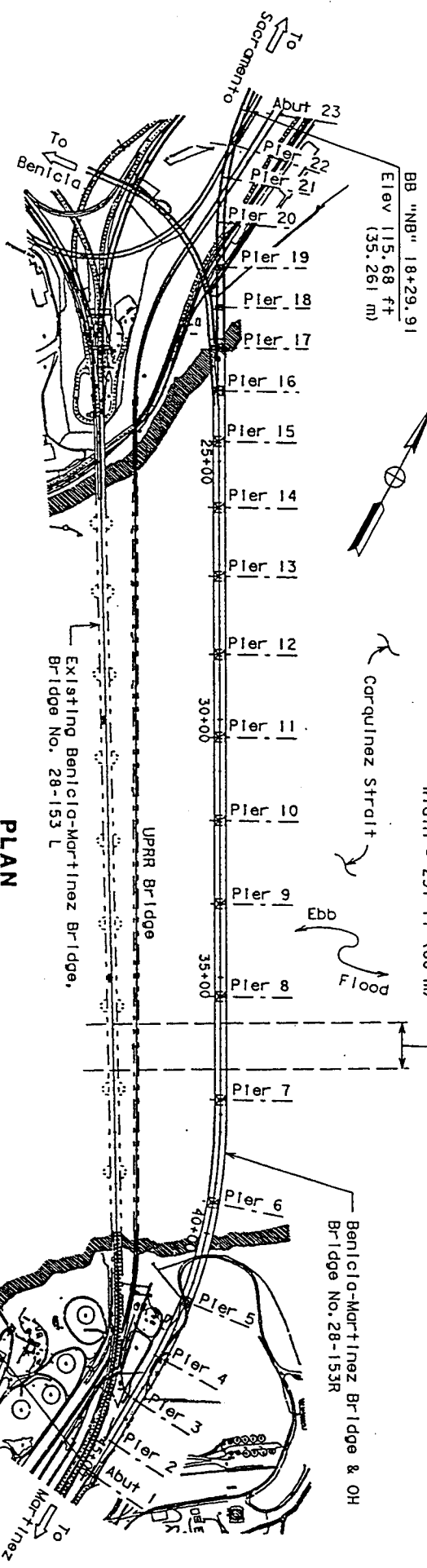


Main Navigation Channel  
Width = 291 ft (88 m)

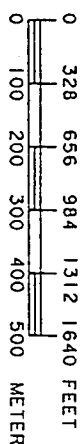


Carquinez Strait

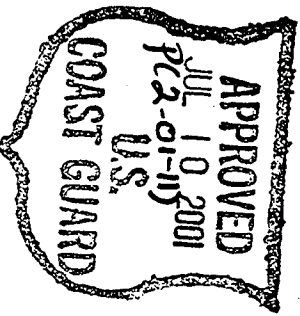
Benicia-Martinez Bridge & OH  
Bridge No. 28-153R



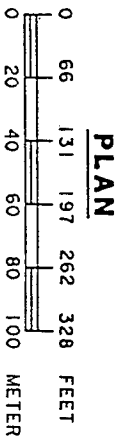
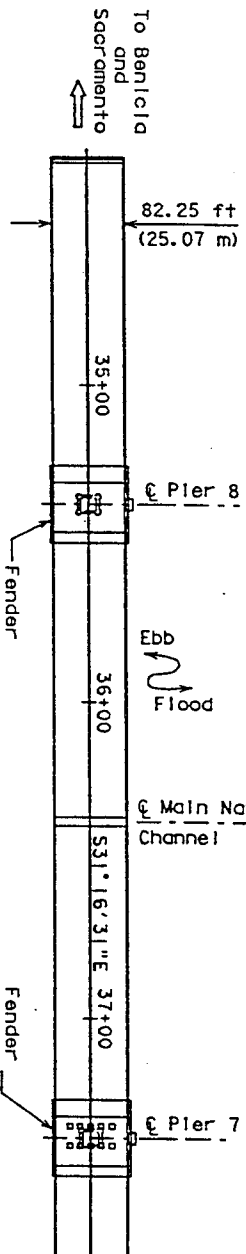
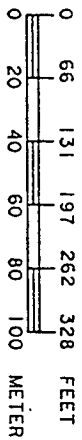
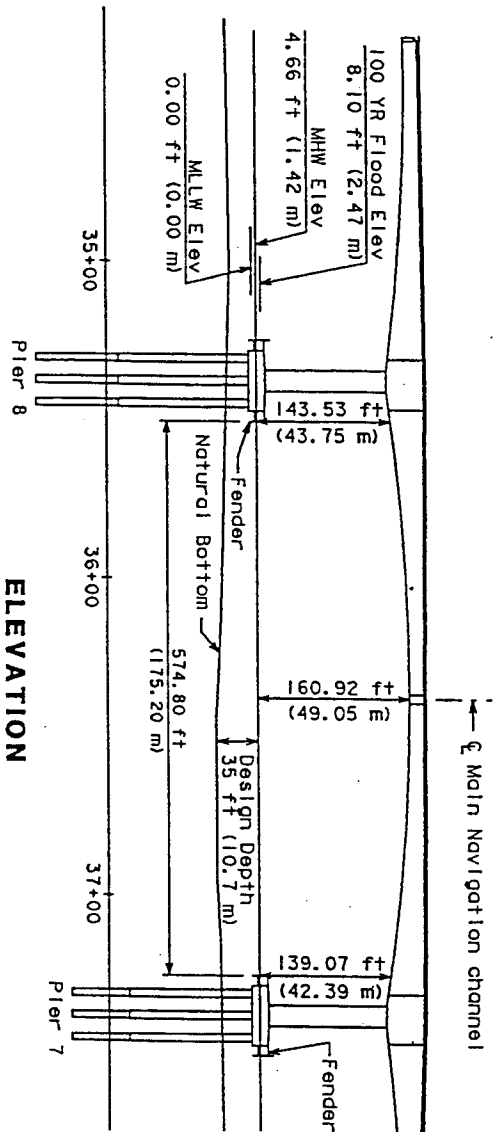
PLAN



PROPOSED BENICIA-MARTINEZ BRIDGE  
OVER CARQUINEZ STRAIT  
Milepost 7.1 (Km 11.4)  
CONTRA COSTA & SOLANO COUNTIES, CALIFORNIA  
CALIFORNIA DEPARTMENT OF TRANSPORTATION  
SHEET 2 OF 3 MARCH 2001



- Notes:
- 1) MHW = Mean High Water
  - 2) MLLW = Mean Lower Low Water
  - 3) Datum reference is MLLW
  - 4) Tidal Station is California 941-5111 at Benicia, Carquinez Strait. Tidal Epoch is (1960-1978)
  - 5) Mean Lower Low Water = -2.1 ft (-0.6 m) NGVD 1929
  - 6) All water elevations are referenced to MLLW



# **PROPOSED BRIDGE NAVIGATION CHANNEL CLEARANCES**

PROPOSED BENICIA-MARTINEZ BRIDGE  
OVER CARQUINEZ STRAIT  
Milepost 7.1 (Km 11.4)  
CONTRA COSTA & SOLANO COUNTIES, CALIFORNIA  
CALIFORNIA DEPARTMENT OF TRANSPORTATION  
SHEET 3 OF 3 MARCH 2001

# COAST GUARD COMPLETION REPORT

16591  
Carquinez St. (7.1)

From: \_\_\_\_\_  
To: Commander, 11th Coast Guard District  
Bldg 50-6  
Coast Guard Island  
Alameda, CA 94501-5100

DATE: \_\_\_\_\_

Our bridge project is completed and the following information is submitted for your records as requested by your letter dated \_\_\_\_\_:

1. Construction of the substructure started on \_\_\_\_\_,  
and substructure construction was finished on \_\_\_\_\_.
2. Construction of the superstructure started on \_\_\_\_\_,  
and superstructure construction was finished on \_\_\_\_\_.
3. The new bridge section was opened for use on \_\_\_\_\_.
4. The bridge provides \_\_\_\_\_ feet horizontal waterway clearance in \_\_\_\_\_  
navigable channel(s).
5. The bridge provides \_\_\_\_\_ feet vertical clearance above Mean Lower Low Water and  
the bridge also provides \_\_\_\_\_ feet vertical clearance above Mean High Water.
6. All parts of the former bridge at this location not incorporated in the new bridge have been removed to  
the mud line.
7. The bridge is owned by: the bridge is operated/maintained by:

_____	_____
_____	_____
_____	_____
_____	_____
tel: _____	tel: _____

8. I certify that the bridge has been built in accordance with the approved permit plans (or USCG  
authorized modifications to such plans) and all requested modifications have been fulfilled. Photographs  
of the bridge are enclosed.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed name and title

**ENCLOSURE(2)**



Navigation Lighting Plan  
Northbound I-680 Benicia-Martinez Highway Bridge  
Carquinez Strait Mile 7.1

The center of the main navigation channel span of the bridge shall be marked by a range of two green lights. Each green light shall show through a horizontal arc of 360 degrees and shall be securely mounted just below the outermost edge of the bridge span structure, so as to be visible from an approaching vessel.

The upstream and downstream ends of the left and right main navigation channel pier protection system shall be lighted with red lights. Each light shall show through a horizontal arc of 180 degrees, and shall be securely fastened at the end of the protection structure as low as practicable but not lower than 2 feet above navigable high water, to show 90 degrees on either side of a line parallel to the axis of the channel, so as to be visible from an approaching vessel.

The channelward faces of the left and right main navigation channel pier protection system shall be lighted with single red lights. Each light shall show through a horizontal arc of 180 degrees, and shall be securely fastened to the top of the protection structure, centered under the main navigation opening, to show 90 degrees on either side of a line perpendicular to the axis of the channel, so as to be visible from an approaching vessel.

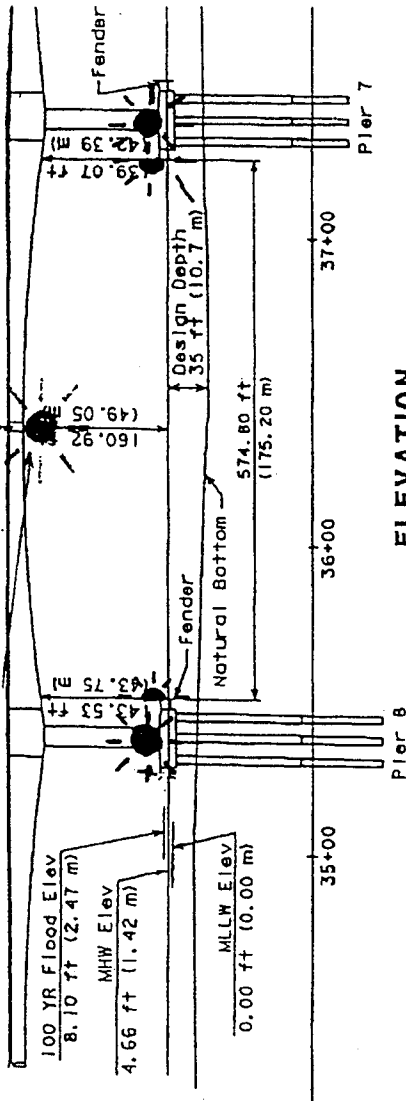
The prescribed navigational lighting must be securely attached to the structure and of sufficient candle power as to be visible against the background lighting at a distance of at least 2,000 yards, 90 percent of the nights of the year.

A single 10-foot vertical clearance gauge shall be installed on the upstream end of the North Channel Pier to show the clearance available for navigation between the water surface and the lowest hittable part of the Southbound I-680 Highway Bridge @ mile 6.9, Carquinez Strait, measured to the bottom of the foot marks. The numerals for the gauges shall be black in color on a white background. The numerals shall measure 36 inches in height and be spaced every 10 feet. The topmost numeral of the gauge (130) shall be located at elevation 7.56 feet, mean sea level (NGVD 29). The bottom most numeral of the gauge (140) shall be located at elevation -2.44 feet, mean sea level (NGVD 29).

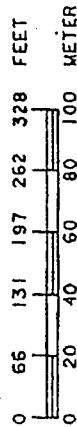
The bridge owner is responsible for initial installation and continued maintenance of each navigation aid in good repair and legible condition.

**ENCLOSURE(3)**

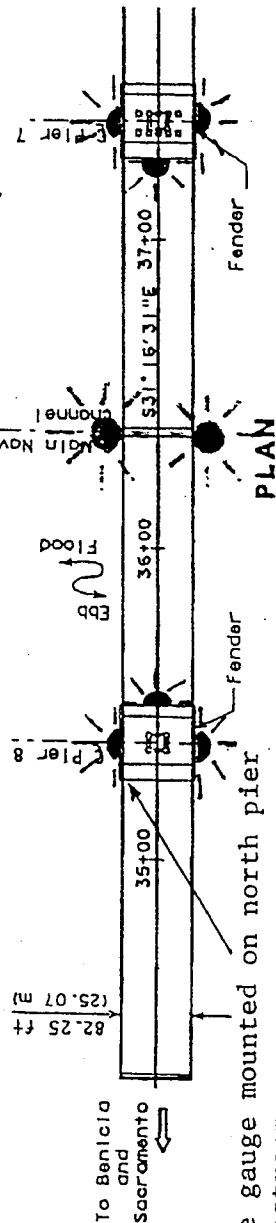
← Main Navigation channel



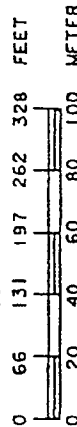
### ELEVATION



- Notes: 1) MHW = Mean High Water  
 2) MLLW = Mean Lower Low Water  
 3) Datum reference is MLLW  
 4) Tidal Station is California 941-5111 at Benicia, Carquinez Strait.  
 5) Tidal Epoch is (1960-1978)  
 6) Mean Lower Low Water = -2.1 ft (-0.6 m) NGVD 1929  
 7) All water elevations are referenced to MLLW



### PLAN



Clearance gauge mounted on north pier facing upstream Series E Gauge

36 inch numerals spaced every 10 feet  
 Navigational Lights and/or Other Signals,  
 approved as shown, pursuant to 33 CFR 118.

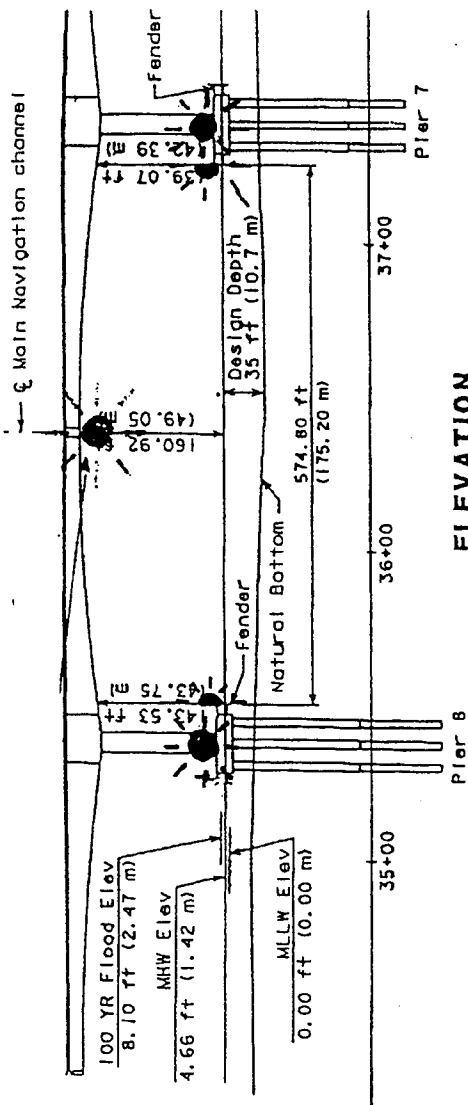
### PROPOSED BRIDGE NAVIGATION CHANNEL CLEARANCES

Date: 17 JUL 2001

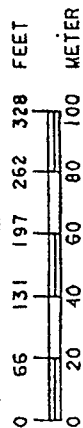
Signature: *David H. Sulouff*  
 DAVID H. SULOUFF  
 Chief, Bridge Section  
 11th Coast Guard District

By direction of District Commander

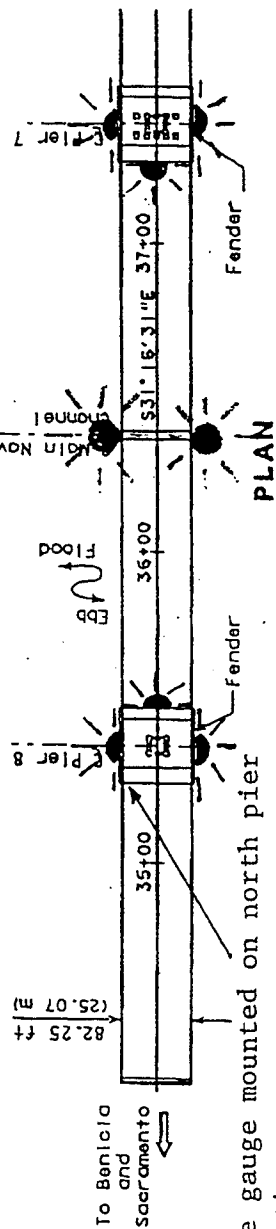
PROPOSED BENICIA-MARTINEZ BRIDGE  
 OVER CARQUINEZ STRAIT  
 Milepost 7.1 (Km 11.4)  
 CONTRA COSTA & SOLANO COUNTIES, CALIFORNIA  
 CALIFORNIA DEPARTMENT OF TRANSPORTATION  
 SHEET 3 OF 3 MARCH 2001



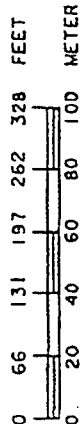
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 7) All water elevations are referenced to MLLW



### PLAN



Clearance gauge mounted on north pier facing upstream Series E Gauge

36 inch numerals spaced every 10 feet  
 Navigation Lights and/or Other Signals, approved as shown, pursuant to 33 CFR 118.

### PROPOSED BRIDGE NAVIGATION CHANNEL CLEARANCES

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

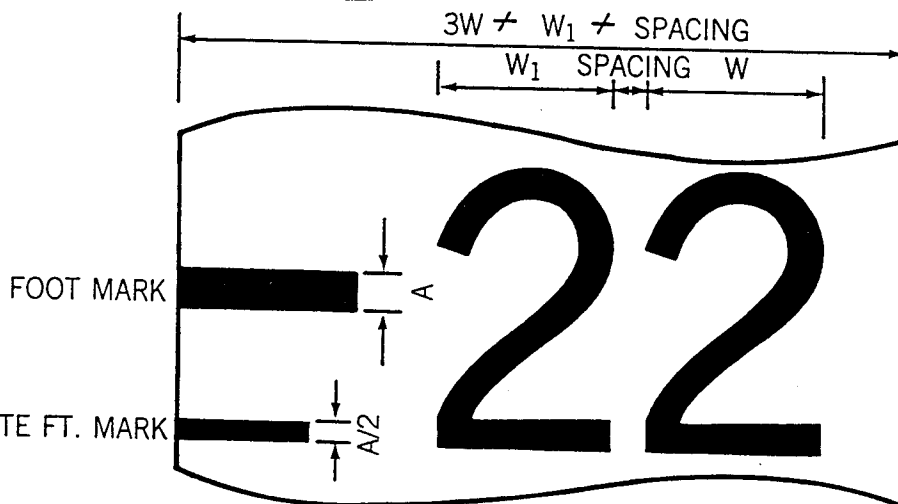
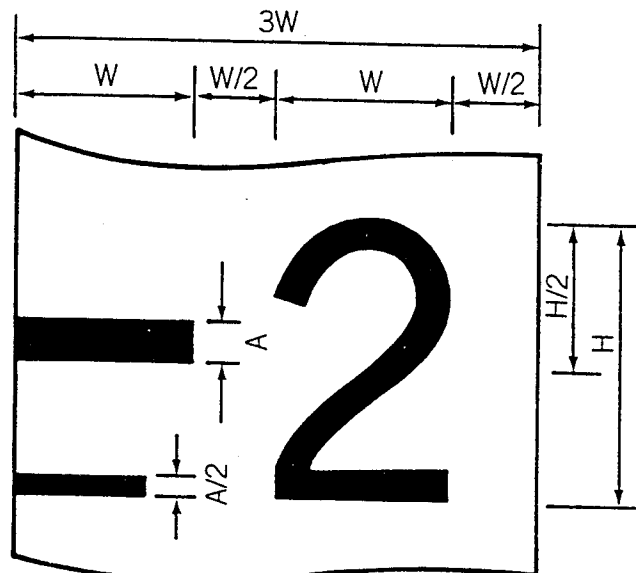
DAVID H. SULOUFF  
 Chief, Bridge Section  
 11th Coast Guard District  
 By direction of District Commander

PROPOSED BENICIA-MARTINEZ BRIDGE  
 OVER CARQUINEZ STRAIT  
 Milepost 7.1 (Km 11.4)  
 CONTRA COSTA & SOLANO COUNTIES, CALIFORNIA  
 CALIFORNIA DEPARTMENT OF TRANSPORTATION  
 SHEET 3 OF 3 MARCH 2001



JP, 7/12/01

## DEPARTMENT OF TRANSPORTATION

UNITED STATES COAST GUARD  
BRIDGE ADMINISTRATION DIVISION  
STANDARD BRIDGE CLEARANCE GAUGE  
33 CFR 118.160

## LEGEND

NOTE: SIZE, TYPE, AND SPACING OF NUMERALS SHALL CONFORM TO THE FEDERAL HIGHWAY ADMINISTRATION "STANDARD ALPHABET FOR HIGHWAY SIGNS"

- W WIDTH OF WIDEST SINGLE NUMERAL EXCLUDING NUMERAL 4
- H HEIGHT OF NUMERAL PRESCRIBED FOR DISTANCE VISIBILITY
- A WIDTH OF STROKE



ENCL. (6) COMDTINST M16590.5A

30 7/17/01

DEPARTMENT OF TRANSPORTATION  
UNITED STATES COAST GUARD  
BRIDGE ADMINISTRATION DIVISION  
HEIGHT AND VERTICAL SPACING  
FOR CLEARANCE GAUGE NUMERALS  
33 CFR 118.160

NUMERAL HEIGHT (INCHES)

